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It is possible to easily change a state of the display panel to any one between the plane state and the bending state by changing the bending adjusting member according to a direction and an intensity of power applied to the bending adjusting member. Further, it is possible to uniformly maintain a shape of the display panel through the bending adjusting member in each of the plane state and the bending state. Further, it is possible to variously adjust a bending shape of the display panel according to the number and the lengths of the bending areas facing the display panel.

While this disclosure has been described in connection with what is presently considered to be practical exemplary embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

What is claimed is:

1. A display device, comprising:

a display panel including a flexible substrate and a display unit; and

a bending adjusting member fixed to a rear surface of the display panel, and changeable between a flat state and a bending state by external force,

wherein the bending adjusting member is bent in a width direction to form a curvature, has elasticity in the width direction and a longitudinal direction, and is maintained in any one state between the flat state and the bending state under a condition of non-application of external force,

wherein the bending adjusting member is provided with at least two pairs of concave recesses in both side surfaces parallel in the longitudinal direction, and is divided into at least three bending areas in the longitudinal direction by at least two pairs of concave recesses, and

wherein each of at least three bending areas is independently changeable between the flat state and the bending state.

2. The display device of claim 1, wherein:

the bending adjusting member is bent in the longitudinal direction by first external force to be switched to the bending state, and returns to the flat state by second external force, and

the first external force and the second external force have the same intensity and opposite directions.

3. The display device of claim 2, wherein:

the bending adjusting member is disposed so that a concave surface faces the display panel, and an adhesive layer is positioned between the display panel and the bending adjusting member.

4. The display device of claim 3, wherein:

the adhesive layer has a stretch ratio in the width direction and the longitudinal direction of the bending adjusting member.

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5. The display device of claim 1, wherein:

a length of the bending adjusting member is larger than a length of the display panel, and

the bending adjusting member is provided with a pair of first concave recesses and a pair of second concave recesses at an external side of the display panel.

6. The display device of claim 5, wherein:

the display panel faces one bending area positioned between the pair of first concave recesses and the pair of second concave recesses.

7. The display device of claim 1, wherein:

the bending adjusting member is provided with one pair of third concave recesses and one pair of fourth concave recesses at positions facing the display panel, and the display panel faces three bending areas divided by the one of the pairs of first to fourth concave recesses.

8. The display device of claim 1, wherein:

the bending adjusting member is provided with one pair of first concave recesses and one pair of second concave recesses at positions facing the display panel, and the display panel faces three bending areas divided by the one pair of first and second concave recesses.

9. The display device of claim 1, wherein:

the display panel is an organic light emitting display panel.

10. A display device, comprising:

a display panel including a flexible substrate and a display unit; and

a bending adjusting member fixed to a rear surface of the display panel, and changeable between a flat state and a bent state; said bending adjusting member comprising: at least two pairs of concave recesses in both side surfaces parallel in the longitudinal direction; and

a bending area between each pair of concave recesses and on opposite ends of the bending adjusting member in the longitudinal direction,

wherein the switching between the flat and bent state occurs individually at each of the bending areas.

11. The display device of claim 10, wherein a length of the bending adjusting member is larger than a length of the display panel.

12. The display device of claim 10, wherein the bending adjusting member is disposed so that a concave surface faces the display panel; and

an adhesive layer is positioned between the display panel and the bending adjusting member.

13. The display device of claim 12, wherein the adhesive layer has a stretch ratio in the width direction and the longitudinal direction of the bending adjusting member.

14. The display device of claim 13, wherein the bending adjusting member is bent in a width direction to form a curvature, has elasticity in the width direction and a longitudinal direction, and is maintained in any one state between the flat state and the bent state under a condition of non-application of external force.

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